OPERATING, INSTALLATION, PARTS, & SERVICE MANUAL FOR ELECTRIC GRIDDLES

MODELS: HEG36, HEG48, HEG60, HEG72

VULCAN-HART CORPORATION, P.O. BOX 696, LOUISVILLE, KENTUCKY 40201, TEL. (502) 778-2791

IMPORTANT

OPERATING, INSTALLATION AND SERVICE PERSONNEL

Operating information for this equipment has been prepared for use by qualified and/or authorized operating personnel

All installation and service on this equipment is to be performed by qualified, certified, licensed and/or authorized installation or service personnel, with the exception of any marked with a a in front of the part number

Service may be obtained by contacting the Factory Service Department, Factory Representative or Local Service Agency

DEFINITIONS

QUALIFIED AND/OR AUTHORIZED OPERATING PERSONNEL

Qualified or authorized operating personnel are those who have carefully read the information in this manual and are familiar with the equipment's functions or have had previous experience with the operation of the equipment covered in this manual

QUALIFIED INSTALLATION PERSONNEL

Qualified installation personnel are individuals, a firm, corporation or company which either in person or through a representative are engaged in, and are responsible for

1. The installation of gas piping from the outlet side of the gas meter, or the service regulator when the meter is not provided, and the connection and installation of the gas appliance Qualified installation personnel must be experienced in such work, be familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction Reference in the United States of America - National Fuel Gas code ANSI Z223 1 (Latest Edition) In Canada-Canadian Standard CAN1-B149 1 NAT GAS (Latest Edition) or CAN1-B149 2 PROPANE (Latest Edition)
2. The installation of electrical wiring from the electric meter, main control box or service outlet to the electric appliance Qualified installation personnel must be experienced in such work, be familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction Reference In the United States of America-National Electrical Code ANSI NFPA No 70 (Latest Edition) In Canada-Canadian Electrical Code Part 1 CSA-C22 1 (Latest Edition)

QUALIFIED SERVICE PERSONNEL

Qualified service personnel are those who are familiar with Vulcan equipment who have been endorsed by the Vulcan-Hart Corporation All authorized service personnel are required to be equipped with a complete set of service parts manuals and stock a minimum amount of parts for Vulcan equipment

SHIPPING DAMAGE CLAIM PROCEDURE

For your protection, please note that equipment in this shipment was carefully inspected and packed by skilled personnel before leaving the factory The transportation company assumes full responsibility for safe delivery upon acceptance of this shipment

If shipment arrives damaged:

1. **VISIBLE LOSS OR DAMAGE** — Be certain this is noted on freight bill or express receipt and signed by person making delivery
2. **FILE CLAIM FOR DAMAGES IMMEDIATELY —** Regardless of extent of damage
3. **CONCEALED LOSS OR DAMAGE** — If damage is unnoticed until merchandise is unpacked, notify transportation company or carrier immediately, and file "concealed damage" claim with them This should be done within (15) days of date of delivery is made to you Be sure to retain container for inspection

We cannot assume responsibility for damage or loss incurred in transit We will, however, be glad to furnish you with necessary documents to support your claim

PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE

IMPORTANT NOTES FOR ALL VULCAN APPLIANCES

1. These units are produced with the best possible workmanship and material Proper installation is vital if best performance and appearance are to be achieved Installer must follow the installation instructions carefully.
2. Information on the construction and installation of ventilating hoods may be obtained from the Standard for the installation of equipment for the removal of smoke and grease laden vapors from commercial cooking equipment NFPA No 96 (latest edition) available from the National Fire Protection Association, Battery March Park Quincy MA 02269.
3. For an appliance equipped with a flexible electric supply cord, the cord is equipped with a three prong (grounding) plug This grounding plug is for your protection against shock hazard and should be plugged directly into i proper[1]. grounded three prong receptacle Do not cut or remove the grounding prong from this plug If the appiance[0] is - * equipped with a grounding plug, and electric supply is needed, ground the appliance by using the ground lug provided (refer to the wiring diagram).

(FOR GAS APPLIANCES ONLY)

4. Do not obstruct the air flow into and around the appliance This air flow is necessary for proper combustion of gases and for ventilation of the appliance. Provisions for ventilation of incoming air supply for the equipment in the room must be in accordance with National Fuel Gas Code ANSI Z223 1 (latest edition).
5. Do not obstruct the flow of flue gases from the flue duct (when so equipped) located on the rear (or sides) of the appliance It is recommended that the flue gases be ventilated to the outside of the building through a ventilation system installed by qualified personnel.
6. For an appliance equipped with casters, (1) the installation shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21 69 (latest edition), and Addenda, Z21 69a (latest edition), and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21 41 (latest edition), and Addenda, Z21 41 a (latest edition) and Z21 41 b (latest edition) and (2) adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit the appliance movement If disconnection of the restraint is necessary, reconnect this restraint after the appliance has been returned to its originally installed position.
7. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3 45 k Pa).
8. The appliance must be isolated from the gas supply system by closing its individual manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than $^{1}/_{2}$ psig (3 45 k Pa).

CAUTIONS

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS EQUIPMENT OR ANY OTHER APPLIANCE.

1. **KEEP THE APPLIANCE FREE AND CLEAR FROM ALL COMBUSTIBLE SUBSTANCES.**
2. **IN THE EVENT A GAS ODOR IS DETECTED, SHUT UNIT(S) DOWN AT THE MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.**
3. **POST IN A PROMINENT LOCATION, INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION MAY BE OBTAINED FROM A LOCAL GAS SUPPLIER.**

HEAVY DUTY ELECTRIC GRIDDLES: OPERATING INSTALLATION, SERVICE AND PARTS MANUAL INDEX

Your Heavy Duty Electric Griddle is produced with the best possible workmanship and material. Proper usage and maintenance will restult in many years of satisfactory performance.

The manufacturer suggests that you thoroughly read this entire manual and carefully follow all of the instructions provided.

Vulcan Griddles are constructed and designed to give long satisfactory service, providing they are properly installed and adjusted, and given reasonable care. To establish terminology which will be understood, the following lists the names of some of the parts of the griddle.

INDEX	PAGE
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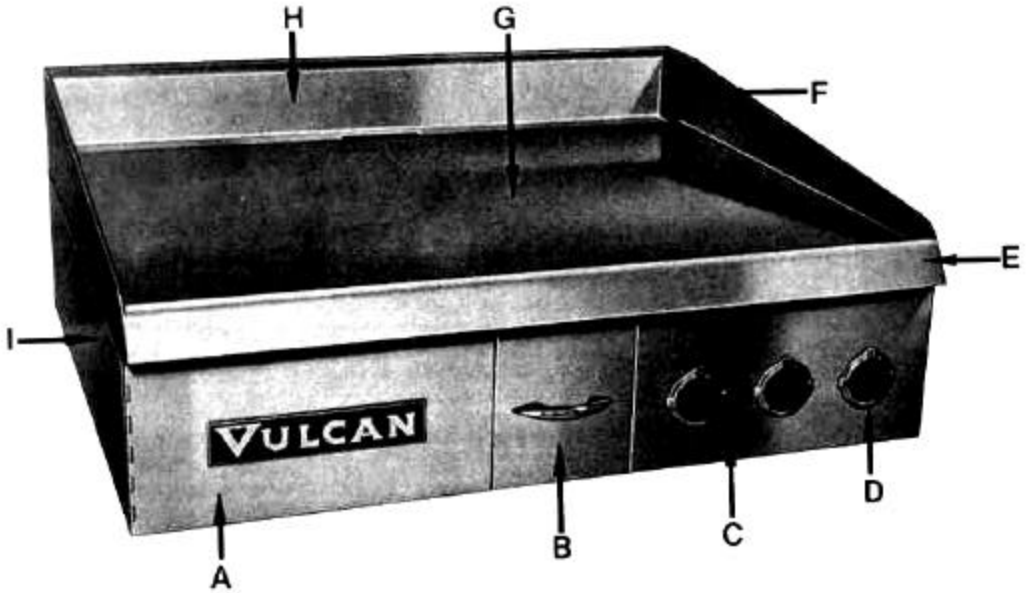


A. Circuit Breaker Cover
B. Grease Drawer
C. Thermostat Cover
D. Thermostat Dial
E. Front Band
F. Side Splash
G. Griddle Plate
H. Rear Splash
I. Side Panel

INSTALLATION

1. Carefully uncrate the unit.

2. The griddle is shipped as a complete unit, and does not require field assembly except the supporting legs. Bolt the legs on four corners of the unit.

3. Level the griddle plate using leveling legs.

CAUTION: Do not slide unit with legs mounted. If it is necessary to move the unit, it should be lifted.

POWER SUPPLY CONNECTION

1. All units are provided with a terminal block for field wire connections behind the circuit breaker cover. A knockout hole is provided for a 1" conduit connection. Two knockout holes provided on the H EG 60 & 72.

2. Remove the circuit breaker cover plate. Mount a suitable 1" conduit fitting in knockout opening.

3. Connect field wiring to the terminal block as indicated on wiring diagram. Wire must be the type suitable for 90°C. service, and sized as indicated on the marking next to junction box.

4. For convenience in testing, the rated amperages are listed below.

5. After making the connections, replace the circuit breaker cover plate.

6. The following precautions must be observed:

(a) Installing personnel should be guided by the National Electrical Code NFPA No. 96-1981. and applicable local codes.

(b) The equipment must be grounded, by installing a grounding lead to the ground lug located inside the circuit breaker compartment.

STANDARD VOLTAGES—208 VOLTS OR 240 VOLTS 60 Hz.—SINGLE PHASE OR THREE PHASE
OPTIONAL VOLTAGE—480 VOLTS 60 Hz.—THREE PHASE ONLY

		TOTAL	3 PHASE LOADING					NOMINAL	AMPS PER LINE WIRE PER CONNECTION'							
	TOTAL	KW	KW PER PHASE						3 PHASE						1 PHASE	
UNIT	CONN.	PER	PER CONN.*				208 VOLT		240 VOLT			480	VOLT		208	240
	KW	CONN.*	X-Y	Y-Z	X-Z	X	Y	Z	X	Y	Z	X	V	*Z*	Volt	VOL"
HEG36	16.8	16.8	5.6	5.6	5.6	46	46	46	40	40	40	20	20	*20*	81	70
HEG48	22.4	22.4	5.6	56	11.2	70	47	70	61	40	61	30	20	30	108	93
HEG60*	28.0	16.8	5.6	5.6	5.6	46	46	46	40	40	40	20	20	20	81	70
		11.2	5.6	5.6	0.0	21	47	21	18	40	18	9	20	9	54	47
HEG72"	33.6	16.8	5.6	5.6	5.6	46	46	46	40	40	40	20	20	20	81	70
		16.8	5.6	5.6	5.6	46	46	46	40	40	40	20	20	20	81	70

*Model HEG 60 & 72 Require Two (2) Separate Electrical Connections and Services.

NOTE: These values are nominal ratings. Field wire connections must be capable of withstanding anticipated surges.

OPERATING INSTRUCTIONS

Cleaning the Griddle at Start Up

1. The griddle is shipped covered with a protective coating of oil. Remove this film only when the griddle plate is being cleaned prior to its first cooking use. If the griddle is to be shut down for an extended period put a heavy coat of grease or oil over the griddle plate.

CAUTION: Care must be exercised not to overheat the griddle plate by setting the thermostats well above recommended temperatures. Overheating the plate may cause plate warpage, and will carbonize any grease on the plate and cause sticking.

2. Seasoning the Griddle Plate A new griddle surface must be seasoned to do a good job. The metal surface of the griddle is porous. Food tends to get trapped in these pores and stick; 'therefore, it is important to "season" or "fill up" these pores with griddling fat before cooking on any metal surfaced griddle. Seasoning gives the surface a slick, hard finish from which the food will release easily.

To season, heat the griddle to a low temperature and pour, a small amount of cooking oil on it, about one ounce per square foot of surface. Spread the oil over the entire griddle surface with a cloth to create a thin film. Wipe off any excess oil with a cloth. Griddle should also be seasoned after each cleaning.

3. NOTE: For each 12" length of griddle plate the unit has one set of heating elements, a thermostat and a two pole *circuit breaker with completely separate wiring to the terminal block where the service connection is made. Access to the *circuit breaker on-off levers is gained by opening the hinged cover to the left (or to left and right of units five feet long or longer). Turn all the circuit breakers on, should one open by its own action, there is something wrong with this section and service is needed. Other sections may be used until the needed service can be rendered.

*Two-pole circuit breakers used on 208-240 volt units only.

4. To use, turn the thermostat for one or more sections (according to load requirements) to the desired temperature 10 to 15 minutes before grilling is to start. Amber signal light (visible through the slotted opening at top of the thermostat dial bezel plate) will glow only as long as thermostat calls for heat. When the light cycles off the temperature of the griddle surface has reached the thermostat setting.

5. CAUTION: This griddle plate is steel, but the surface is relatively soft and can be scored or dented by carelessly using a spatula. Be careful not to dent, scratch, or gouge the plate surface. Do not try to knock off loose food that may be on the spatula by tapping the corner or the edge of the spatula on the griddle surface.

6. Cleaning

Empty the grease drawer daily or more often as needed. Clean the unit regularly. A clean unit looks better, lasts longer, and performs better.

Keep the griddle plate surface clean to produce evenly cooked, perfectly browned griddle products keep the griddle free from carbonized grease Car bonized grease on the surface hinders the transfer of heat from the griddle surface to the food. This results in spotty browning and loss of cooking efficiency and, worst of all. carbonized grease tends to cling to griddled foods, giving them a highly unsatisfactory and unappetizing appearance. To keep the griddle clean and operating at peak efficiency, follow these instructions:

(a) AFTER EACH USE: Clean griddle with a flexible spatula or griddle scraper.

(b) DURING THE DAY: Flush the hot griddle with water and scrape with a griddle scraper to reduce the amount of carbonized grease buildup, follow with a light coating of oil to prevent product sticking.

(c) ONCE A DAY: Thoroughly clean the splash back, sides and front. Remove the grease pan, empty and wash out in the same manner as any ordinary cooking utensil.

Clean griddle surface thoroughly with water and degreasing cleaner. Rub with grain of the metal while still warm. Care must be taken to be sure the degreasing cleaner is thoroughly removed by flushing with clear water. After removal of the detergent, the surface of the plate should be reseasoned as covered in item 2 above. Clean stainless steel or chromed surfaces with a damp cloth and polish with a soft dry cloth. To remove discolorations, use a non-abrasive cleaner.

7. For additional hints on griddle cooking and operation, refer to Tables 1, pg. 7 and 2, pg. 8)

SERVICE INSTRUCTIONS

Any electric griddle, no matter how well made, will eventually need service attention. The equipment will need less service if given normal care and frequent cleaning.

Vulcan griddles are engineered to make service easy. Any part can be easily and quickly removed and replaced.

THERMOSTAT CALIBRATION

The griddle thermostat is carefully calibrated at the factory so that the dial settings match the actual griddle temperatures. Field recalibration is seldom necessary, unless the unit has been mishandled in transit, or abused. Recalibration should not be resorted to unless coinsiderable experience with cooking results definitely proves that the control is not maintaining the temperature to which the dial is set.

To Check The Calibration

1. Use a griddle type test instrument and place the thermocouple on section of griddle desired.

2. With thermostat dial in the OFF position, make certain the OFF mark on the dial agrees with reference point of the bezel. Misalignment will affect calibration. Then turn the dial to a temperature setting of 375°F.

3. ALLOW TO HEAT UNTIL CONTROL SNAPS "ON AND OFF" THERMOSTATICALLY AT LEAST THREE TIMES. This will allow the temperature to stabilize and eleminate possible error resulting from initial temperature overshoot and/or undershoot.

4. After the control has cycled thermostatically three or more times, note the surface temperature when the electric units snap off, and the temperature when the unit snaps on. RECALIBRATE ONLY if the average of these two temperature readings varies more than the number of degrees shown below.

TEMP.RANGE IN DEGREES F.	RECALIBRATE WHEN OUTSIDE THESE LIMITS ±10°
150° to 450°F.	

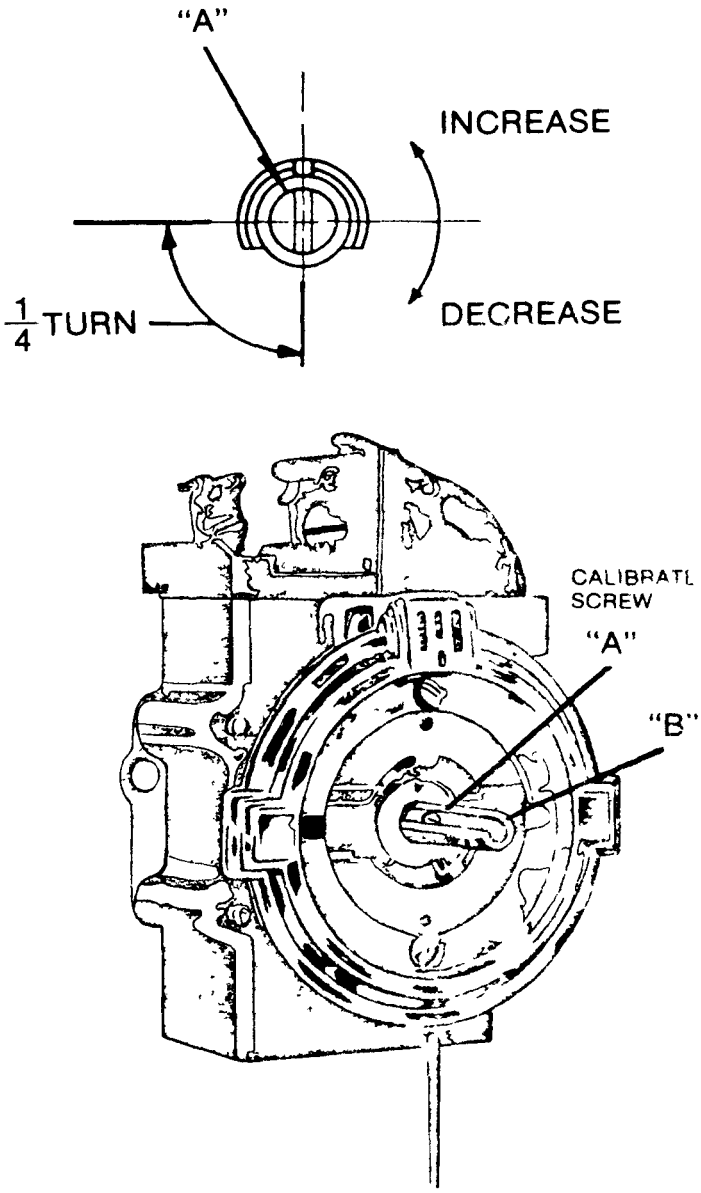


FIGURE 1

5. Hold the thermostat dial shaft "B" (Figure 1) stationary with pliers, and with a screwdriver, turn screw "A" (Figure 1) clockwise to obtain a lower temperature; or counter-clockwise for higher temperature. Each *1/*4 turn (90° rotation of screw "A" represents 18°F.)

SERVICE INSTRUCTIONS (Continued)

REPLACEMENT OF COMPONENTS

NOTE: All of the following service procedures involve exposing or handling normally live wires. The unit must be disconnected from the power source.

There are three areas in which service may be necessary.

They are:

I. Plate Assembly Contains:
Elements Thermostat
Bulb Wiring

II. Circuit Breaker Compartment Contains:
Circuit Breakers
Terminal Block Wiring
Compartment

III. Thermostat Panel Contains:
Thermostats Wiring

I. Plate Assembly (Removing or Replacing Element or Thermostat Bulb).

A. Remove the plate. The hold down clip is located under the front band, raise the front edge of the plate assembly up and prop with chock angles located at each front corner of the griddle body.

B. Remove the element cover and insulation secured by four screws (two front edge, two rear edge).

1. Remove the element(s) (inner or outer):
   a. Disconnect the leads to the element(s). b. Remove element clips. c. Remove element.
2. Remove the thermostat bulb:
   a. Remove the three nuts securing the bulb shields. b. Remove the bulb shields.

II. Circuit Breaker Compartment

A. To reset the circuit breaker (208-240V units) open the door and reset it.

B. To gain access to this area open the circuit breaker hinged cover and remove panel thus exposed.

C. To replace a circuit breaker:
   1. Remove the wires from that breaker only.
   2. Loosen two screws on the breaker top clamp bar, pull the top of the breaker forward to clear the upper clamp bar and raise the breaker to clear the lower clamp bar.

III. Thermostat Panel.

A. Remove the panel by removing one screw at each end of the panel.
1. Remove the thermostat:
   a. Remove the knob (pull it off).
   b. Remove the thermostat retaining screws (two) one each side of the stem.
   c. Remove the leads from thermostat.
   d. Remove the capillary tube from the plate assembiy as outlined in 1 above.

SUGGESTED TEMPERATURES AND TIMES FOR GRIDDLING

TABLE—1

Food	Control Setting	Time in Minutes
American Fried Potatoes	375 Degrees	3 to 4
Bacon	350 Degrees	6
Boiled Ham	375 Degrees	2
Beef Tenderloin	400 Degrees	5 to 7
Canadian Bacon	350 Degrees	3 to 4
Hamburgers	350 Degrees	3 to 4
Club Steak	450 Degrees	3 to 5
Ham Steak	400 Degrees	10
Sausage Links or Patties	350 Degrees	3 to 4
French Toast	400 Degrees	4 to 5
Pancakes	375 Degrees	2
Scrambled Eggs	300 Degrees	3 to 4
Hard Fried Eggs	300 Degrees	3
Soft Fried Eggs	300 Degrees	2
Sunny Side Up Eggs	300 Degrees	3

NOTE: These are only suggested griddle temperatures and cooking times. You may want to try others. For example, some restaurants are cooking hamburgers at 300°F and under.

GRIDDLING TROUBLE SHOOTING GUIDE

TABLE — 2

Problem \ Possible Cause	Heat set too high	Moisture in food may be turning into steam	Griddle surface needs cleaning and/or seasoning	Surface under food may not have been covered with enough cooking oil	Food may not have been cooked for long enough time	Food itself may have off-flavor	Food may have been stored improperly before cooking	Too much griddle fat used	Heat set too low
Fat appears to smoke excessively	X	X							
Food sticks to griddle	X		X	X					
Food burned around edges or contains dark specks	X		X	X					
Food undercooked inside	X				X				
Food tastes greasy or has objectionable off-flavor						X	X	X	X
Noticeable build-up or gum on griddle	X		X					X	

MAINTENANCE TROUBLE SHOOTING GUIDE

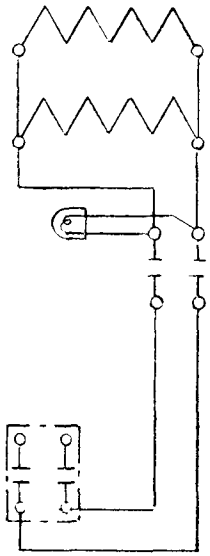
PROBLEM	POSSIBLE CAUSE
1. Amber light on all thermostats fails to light when thermostats are turned on.	1. Not plugged in 2. Store circuit breaker tripped. 3. All unit circuit breakers off*.
2. Amber light on one thermostat fails to light when thermostat is turned on.	1. Thermostat bad 2. Light bad 3. Unit circuit breaker* tripped.
3. Amber light lit but one section of griddle not heating.	1. Thermostat bad 2. Heating element bad. 3. Loose or broken wiring to heating element
4. Circuit breaker will not stay on.	1. Short circuit 2. Circuit breaker bad* 3. Heating element bad 4. Improper voltage

*Two pole circuit breakers used on 208-240 volt units only.

REPLACEMENT PARTS LIST

Quantity	Part No.	Part Name
1 or 2	6821-001	Grease Pan Body
1 or 2	6822	Grease Pan Front
1 or 2	20180	Grease Pan Handle w/screws
1 per foot	4654-11	Outer Element - 208 Volts
1 per foot	4654-12	Outer Element - 236 Volts
1 per foot	4654-13	Outer Element - 480 Volts
1 per foot	4655-11	Inner Element - 208 Volts
1 per foot	4655-12	Inner Element - 236 Volts
1 per foot	4655-13	Inner Element - 480 Volts
1 per foot	4746	Thermostat
1 per foot	4747	Circuit Breaker Heinemann 2912 30 Amp
1 or 2	5726	Terminal Block
2 or 4	4748	Breaker Mounting Clamp
1	6824-001	Breaker Door Assembly HEG-36 & HEG-72 LH
2 or 4	6802	Hinge Leaf
1 or 2	81761	Door Magnet
1	6824-002	Breaker Door Assembly HEG-48
1	6824-003	Breaker Door Assembly HEG-60 LH
1	6824-004	Breaker Door Assembly HEG-60 RH
1	6824-005	Breaker Door Assembly HEG-72 RH
1	4812-001	Griddle Plate Assy HEG-36
1	4813-001	Griddle Plate Assy HEG-48
1	4814-001	Griddle Plate Assy HEG-60
1	4815-001	Griddle Plate Assy HEG-72

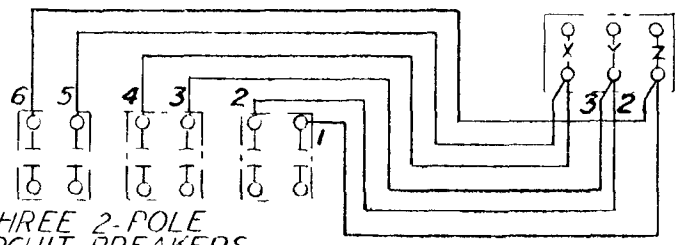
NOTE: Order just the quantity of parts that need to be replaced.



TYPICAL FOR EACH 12" OF GRIDDLE PLATE LENGTH.

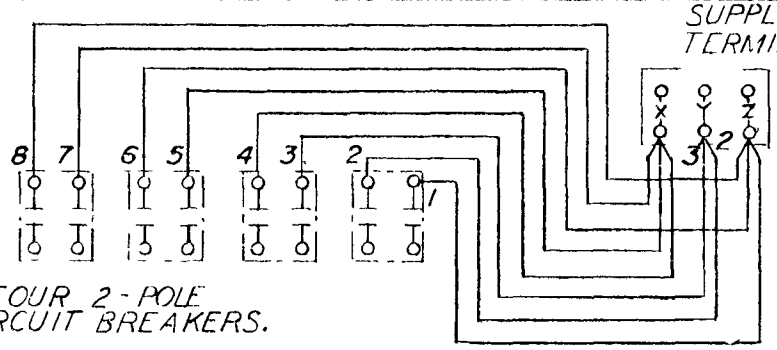
FOR WIRING FROM CIRCUIT BREAKERS TO TERMINAL BLOCK, SEE DIAGRAMS AT RIGHT.

WIRE DATA
ALL WIRE NO. 14 AND RATED FOR 150° C OR HIGHER AND FOR 600 V.



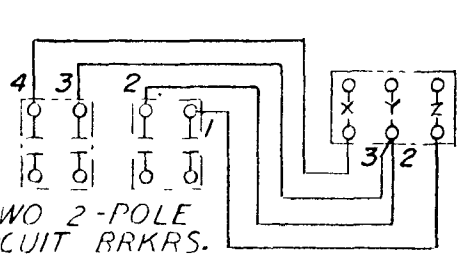
3 PHASE SHOWN.
FOR 1 PHASE MOVE WIRE NO. 2 FROM Y TO X, AND WIRE NO. 3 FROM Y TO Z.

HEG-36 HEG-72 & LEFT SIDE HEG-60



3 PHASE SHOWN.
FOR 1 PHASE MOVE WIRE NO. 2 FROM Y TO X AND WIRE NO. 3 FROM Y TO Z

HEG-48



3 PHASE SHOWN.
FOR 1 PHASE MOVE WIRE NO. 2 FROM Y TO X AND WIRE NO. 3 FROM Y TO Z

RIGHT SIDE OF HEG-60

WIRING DIAGRAM FOR HEG GRIDDLES

208-240/60-50/3
208-240/60-50/1

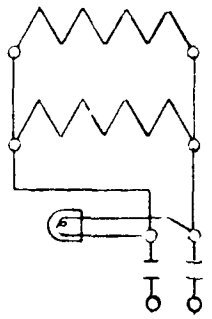
VULCAN-HART CORP. LOUISVILLE, KY.

1-14-71 LAB

REV. 6-3-74 JCC

E 5195 A

WIRING DIAGRAM



OUTER ELEMENT
1850 WATTS.

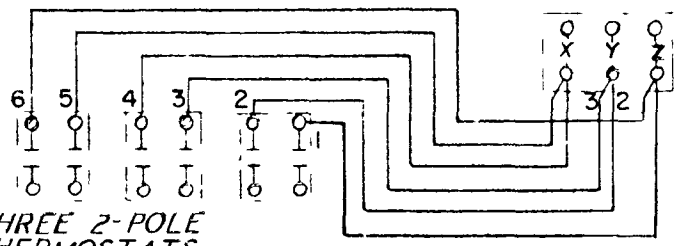
INNER ELEMENT
3750 WATTS.

2 POLE
THERMOSTAT
WITH SIGNAL
LIGHT.

TYPICAL FOR EACH 12" OF GRIDDLE PLATE LENGTH.

FOR WIRING FROM THERMO-STATS TO THE TERMINAL BLOCK, SEE DIAGRAMS AT RIGHT.

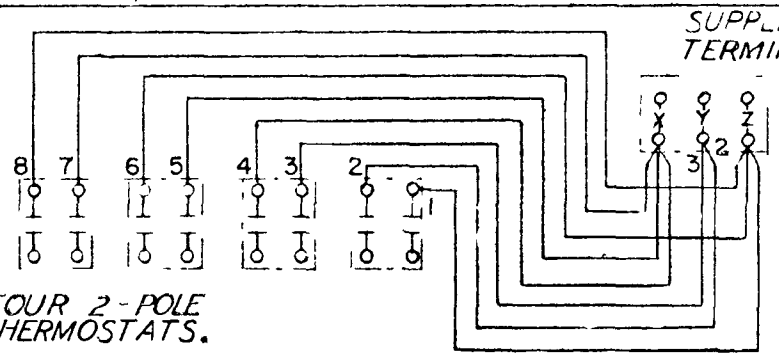
WIRE DATA
ALL WIRE NO. 14 AND RATED FOR 150° C OR HIGHER AND FOR 600 V.



THREE 2-POLE THERMOSTATS.

3 PHASE SHOWN.
FOR 1 PHASE
MOVE WIRE NO. 2
FROM Y TO X
AND WIRE NO. 3
FROM Y TO Z

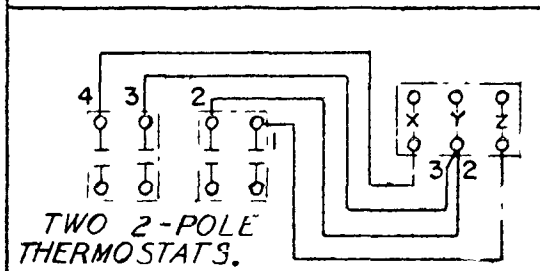
HEG-36, HEG-72 & LEFT SIDE HEG-60



FOUR 2-POLE THERMOSTATS.

3 PHASE SHOWN.
FOR 1 PHASE
MOVE WIRE NO. 2
FROM Y TO X
AND WIRE NO. 3
FROM Y TO Z

HEG-48



TWO 2-POLE THERMOSTATS.

3 PHASE SHOWN.
FOR 1 PHASE
MOVE WIRE NO. 2
FROM Y TO X
AND WIRE NO. 3
FROM Y TO Z

RIGHT SIDE OF HEG-60

WIRING DIAGRAM FOR HEG GRIDDLES

460-480/60-50/3

460-480/60-50/1·A

VULCAN-HART CORP. LOUISVILLE, KY.

1-14-71 LAB

REV. JCC 6-5-74

E	5196	1

MANUAL PART NO.: 99-04-05A

FOR MODELS: HEG 36, HEG 48 HEG 60,
HEG 72, ELECTRIC
GRIDDLES

DESCRIPTION:
OPERATING, INSTALLATION, SERVICE
AND PARTS MANUAL

REV. BLOCK		
REV.#	DATE	SIG.
1	3/84	DH